09/889,379

# Freeform Search

**Database:** US Pre-Grant Publication Full-Text Database; US Patents Full-Text Database; US OCR Full-Text Database; EPO Abstracts Database; JPO Abstracts Database; Derwent World Patents Index; IBM Technical Disclosure Bulletins

**Term:** 19 and DNA

**Display:** 10 **Documents in Display Format:** - **Starting with Number** 1

**Generate:** ○ Hit List ◉ Hit Count ○ Side by Side ○ Image

Search Clear Interrupt

## Search History

**DATE: Wednesday, February 04, 2004** Printable Copy Create Case

| Set Name side by side | Query | Hit Count | Set Name result set |
|---|---|---|---|
| *DB=USPT,EPAB,JPAB,DWPI; PLUR=YES; OP=ADJ* | | | |
| L11 | l9 and DNA | 2 | L11 |
| L10 | L9 and tumor cell$1 | 0 | L10 |
| L9 | lida.in. | 308 | L9 |
| L8 | L7 and immobiliz$7 | 1 | L8 |
| L7 | L6 and DNA | 23 | L7 |
| L6 | L5 and tumor cell$1 | 107 | L6 |
| L5 | saito.in. | 115361 | L5 |
| L4 | L3 and tumor | 11 | L4 |
| L3 | l1 and DNA | 117 | L3 |
| L2 | L1 and saito and lida | 0 | L2 |
| L1 | sugiyama.in. | 32045 | L1 |

END OF SEARCH HISTORY

~~09/889,379~~

FILE 'HOME' ENTERED AT 13:51:30 ON 04 FEB 2004

=> file reg
COST IN U.S. DOLLARS SINCE FILE ENTRY TOTAL SESSION
FULL ESTIMATED COST 0.21 0.21

FILE 'REGISTRY' ENTERED AT 13:51:38 ON 04 FEB 2004
USE IS SUBJECT TO THE TERMS OF YOUR STN CUSTOMER AGREEMENT.
PLEASE SEE "HELP USAGETERMS" FOR DETAILS.


Property values tagged with IC are from the ZIC/VINITI data file provided by InfoChem.

STRUCTURE FILE UPDATES: 3 FEB 2004 HIGHEST RN 646026-80-4
DICTIONARY FILE UPDATES: 3 FEB 2004 HIGHEST RN 646026-80-4

TSCA INFORMATION NOW CURRENT THROUGH JULY 14, 2003

Please note that search-term pricing does apply when conducting SmartSELECT searches.

Crossover limits have been increased. See HELP CROSSOVER for details.

Experimental and calculated property data are now available. For more information enter HELP PROP at an arrow prompt in the file or refer to the file summary sheet on the web at:
http://www.cas.org/ONLINE/DBSS/registryss.html

*** YOU HAVE NEW MAIL ***

=>
Uploading C:\Program Files\Stnexp\Queries\joyce.str

L1 STRUCTURE UPLOADED

=> d l1
L1 HAS NO ANSWERS
L1 STR
*** STRUCTURE DIAGRAM IS NOT AVAILABLE ***

Structure attributes must be viewed using STN Express query preparation.

=> s l1 full
FULL SEARCH INITIATED 13:52:07 FILE 'REGISTRY'
FULL SCREEN SEARCH COMPLETED - 35 TO ITERATE

100.0% PROCESSED 35 ITERATIONS 5 ANSWERS
SEARCH TIME: 00.00.01

L2 5 SEA SSS FUL L1

=> file caplus
COST IN U.S. DOLLARS SINCE FILE ENTRY TOTAL SESSION
FULL ESTIMATED COST 155.42 155.63

FILE 'CAPLUS' ENTERED AT 13:52:16 ON 04 FEB 2004
USE IS SUBJECT TO THE TERMS OF YOUR STN CUSTOMER AGREEMENT.

09567863

PLEASE SEE "HELP USAGETERMS" FOR DETAILS.


FILE COVERS 1907 - 4 Feb 2004 VOL 140 ISS 6
FILE LAST UPDATED: 3 Feb 2004 (20040203/ED)

This file contains CAS Registry Numbers for easy and accurate substance identification.

=> s l2
L3 4 L2

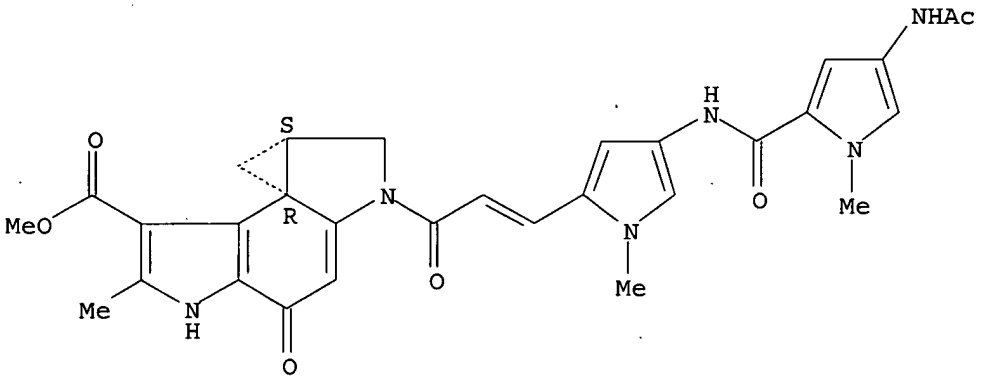
=> d l4 bib abs hitstr 1-4
L4 NOT FOUND
The L-number entered has not been defined in this session, or it has been deleted. To see the L-numbers currently defined in this session, enter DISPLAY HISTORY at an arrow prompt (=>).

=> d l3 bib abs hitstr 1-4

L3 ANSWER 1 OF 4 CAPLUS COPYRIGHT 2004 ACS on STN
AN 2003:341959 CAPLUS
DN 139:345455
TI Gene therapy of cancer by using novel alkylating pyrrole-imidazole polyamide
AU Sugiyama, Hiroshi
CS Dep. of Biomaterials, Tokyo Medical and Dental University, Japan
SO Ikagaku Oyo Kenkyu Zaidan Kenkyu Hokoku (2001), Volume Date 2000, 19, 198-202
CODEN: IOKHEP; ISSN: 0914-5117
PB Ikagaku Oyo Kenkyu Zaidan
DT Journal
LA Japanese
AB Novel alkylating pyrrole-imidazole polyamide derivs. were design and prepared for gene therapy of cancer. The antitumor activities of the derivs. against Hela cells were tested.
IT **339984-88-2P**
RL: PAC (Pharmacological activity); SPN (Synthetic preparation); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); USES (Uses)
(gene therapy of cancer by using novel alkylating pyrrole-imidazole polyamides)
RN 339984-88-2 CAPLUS
CN Cyclopropa[c]pyrrolo[3,2-e]indole-7-carboxylic acid, 2-[3-[4-[[[4-(acetylamino)-1-methyl-1H-pyrrol-2-yl]carbonyl]amino]-1-methyl-1H-pyrrol-2-yl]-1-oxo-2-propenyl]-1,2,4,5,8,8a-hexahydro-6-methyl-4-oxo-, methyl ester, (7bR,8aS)- (9CI) (CA INDEX NAME)

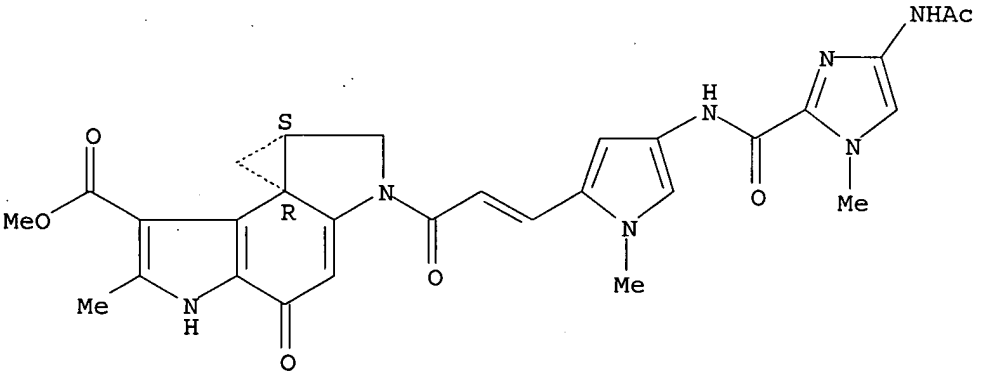
Absolute stereochemistry.
Double bond geometry unknown.

09567863



IT **339984-91-7P**
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
(gene therapy of cancer by using novel alkylating pyrrole-imidazole polyamides)
RN 339984-91-7 CAPLUS
CN Cyclopropa[c]pyrrolo[3,2-e]indole-7-carboxylic acid, 2-[3-[4-[[[4-(acetylamino)-1-methyl-1H-imidazol-2-yl]carbonyl]amino]-1-methyl-1H-pyrrol-2-yl]-1-oxo-2-propenyl]-1,2,4,5,8,8a-hexahydro-6-methyl-4-oxo-, methyl ester, (7bR,8aS)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.
Double bond geometry unknown.



L3 ANSWER 2 OF 4 CAPLUS COPYRIGHT 2004 ACS on STN
AN 2001:365880 CAPLUS
DN 134:366795
TI DNA sequence recognition by pyrrole-imidazole polyamide for use in anticancer drug screening
IN Sugiyama, Hiroshi; Saito, Akira; Iida, Hirokazu
PA Foundation for Scientific Technology Promotion, Japan
SO Jpn. Kokai Tokkyo Koho, 14 pp.
CODEN: JKXXAF
DT Patent
LA Japanese
FAN.CNT 1

| | PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|---|---|---|---|---|---|
| PI | JP 2001136974 | A2 | 20010522 | JP 1999-326007 | 19991116 |
| | WO 2001036677 | A1 | 20010525 | WO 2000-JP7992 | 20001113 |

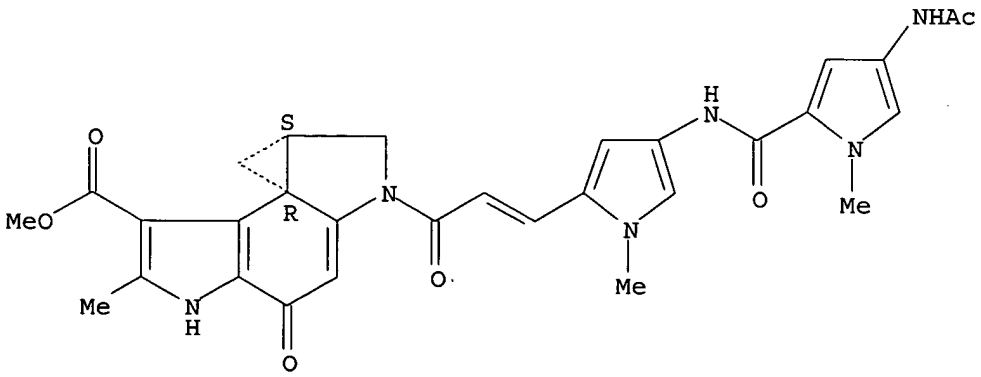
W: US
RW: AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR
EP 1152061 A1 20011107 EP 2000-974961 20001113
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, FI
US 2003099998 A1 20030529 US 2002-285030 20021101
PRAI JP 1999-326007 A 19991116
WO 2000-JP7992 W 20001113
US 2001-889379 A3 20010716

AB Novel chemical species represented by the following general formula B-L-A (B = a chemical structure capable of recognizing the base sequence of DNA, for example, optionally substituted pyrrole-imidazole polyamide; A = a chemical structure capable of binding to unnatural nucleotide bases, for example, the alkylation moiety of duocarmycin A; L = a linker capable of binding the chemical structures A and B, for example, vinyl) and use of those compds. in screening of biol. activity of chemical compds. are disclosed. Those compds. are preferably DNA alkylating agents, applicable as anticancer agents. Reagent kits for screening, including microtiter plates, are claimed. Drug screening using human cancer cell lines, CL-wt cells, HLC-2 cells, Jurkat cells, and HeLa cells, and synthetic scheme for the bioactive compds., are described.

IT **339984-88-2 339984-91-7**
RL: ARU (Analytical role, unclassified); BAC (Biological activity or effector, except adverse); BPR (Biological process); BSU (Biological study, unclassified); BUU (Biological use, unclassified); PRP (Properties); ANST (Analytical study); BIOL (Biological study); PROC (Process); USES (Uses)
(DNA sequence recognition by pyrrole-imidazole polyamide for use in anticancer drug screening)

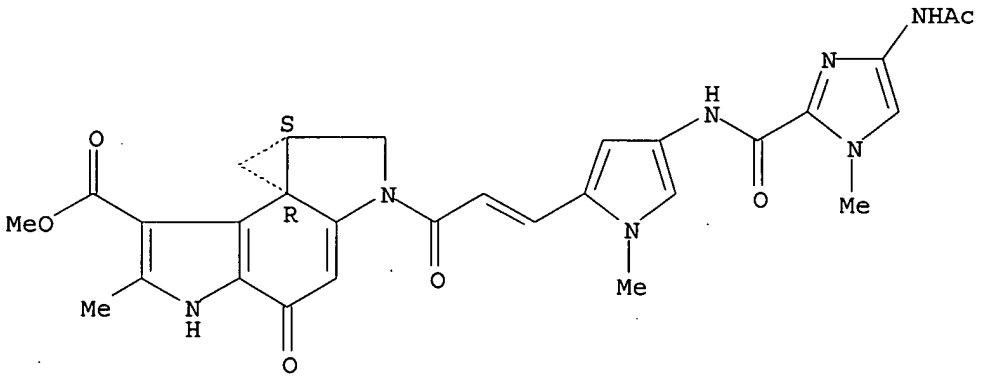
RN 339984-88-2 CAPLUS
CN Cyclopropa[c]pyrrolo[3,2-e]indole-7-carboxylic acid, 2-[3-[4-[[[4-(acetylamino)-1-methyl-1H-pyrrol-2-yl]carbonyl]amino]-1-methyl-1H-pyrrol-2-yl]-1-oxo-2-propenyl]-1,2,4,5,8,8a-hexahydro-6-methyl-4-oxo-, methyl ester, (7bR,8aS)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.
Double bond geometry unknown.




RN 339984-91-7 CAPLUS
CN Cyclopropa[c]pyrrolo[3,2-e]indole-7-carboxylic acid, 2-[3-[4-[[[4-(acetylamino)-1-methyl-1H-imidazol-2-yl]carbonyl]amino]-1-methyl-1H-pyrrol-2-yl]-1-oxo-2-propenyl]-1,2,4,5,8,8a-hexahydro-6-methyl-4-oxo-, methyl ester, (7bR,8aS)- (9CI) (CA INDEX NAME)

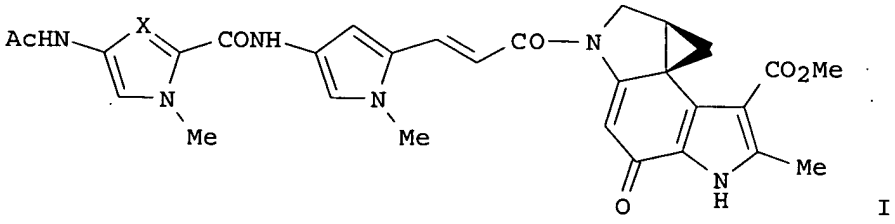
Absolute stereochemistry.
Double bond geometry unknown.



L3 ANSWER 3 OF 4 CAPLUS COPYRIGHT 2004 ACS on STN
AN 2000:707167 CAPLUS
DN 133:266852
TI Preparation of duocarmycin derivatives capable of cleaving double-stranded DNA and method of utilization of the same
IN Sugiyama, Hiroshi; Tao, Zhi-Fu; Saito, Isao
PA Japan Science and Technology Corporation, Japan
SO PCT Int. Appl., 28 pp.
CODEN: PIXXD2
DT Patent
LA Japanese
FAN.CNT 1

| | PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|---|---|---|---|---|---|
| PI | WO 2000058312 | A1 | 20001005 | WO 2000-JP1461 | 20000310 |
| | W: CA, KR, US | | | | |
| | RW: AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE | | | | |
| | JP 2000281679 | A2 | 20001010 | JP 1999-83591 | 19990326 |
| | CA 2328903 | AA | 20001005 | CA 2000-2328903 | 20000310 |
| | EP 1083177 | A1 | 20010314 | EP 2000-907992 | 20000310 |
| | R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, FI | | | | |
| PRAI | JP 1999-83591 | A | 19990326 | | |
| | WO 2000-JP1461 | W | 20000310 | | |

GI



I

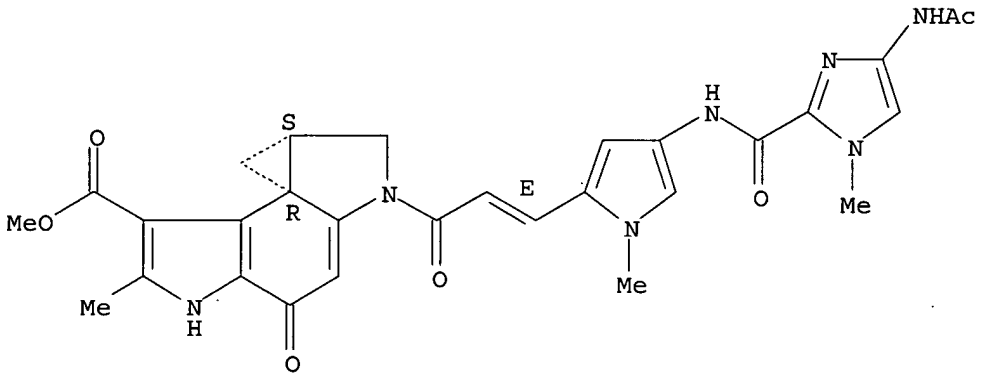
AB Novel chemical species represented by the following general formula B-L-A (I; wherein B represents a chemical structure capable of recognizing the base sequence of DNA, for example, optionally substituted pyrrole-imidazole polyamide; A represents a chemical structure capable of binding to one base of DNA, for example, the alkylation moiety of duocarmycin A; and L represents a linker capable of binding the chemical structures A and B, for

example, vinyl) are prepared Also claimed are a method for alkylating DNA and a method for cleaving double-stranded DNA by using these compds.; and medicinal compns. with the use of these compds. for treatment of cancer. These compds. I, e.g. duocarmycin derivs. (II; R = CH, N) (preparation given) which recognizes base sequences TGACG or CGACG or their complimentary chain, are capable of simultaneously alkylating double-stranded DNA and cleaving the same and useful as artificial restriction enzymes or for targeting specific DNA base sequences for gene therapy. II (R = CH), II (R = N), and duocarmycin A in vitro showed IC50 of 1.5, 0.7 nM, and 4.7, resp., for inhibiting the proliferation of HeLaS3 cells.

IT **296794-37-1P 296794-38-2P**
RL: BAC (Biological activity or effector, except adverse); BSU (Biological study, unclassified); SPN (Synthetic preparation); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); USES (Uses)
(preparation of duocarmycin derivs. capable of alkylating and cleaving double-stranded DNA as anticancer agents)

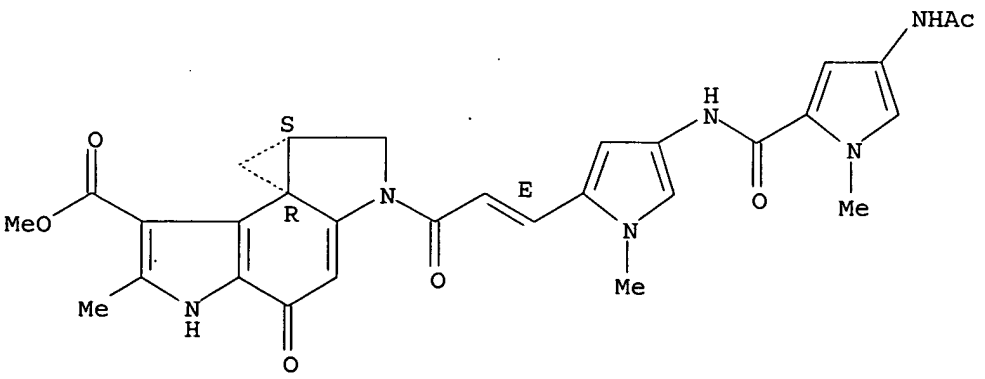
RN 296794-37-1 CAPLUS
CN Cyclopropa[c]pyrrolo[3,2-e]indole-7-carboxylic acid, 2-[(2E)-3-[4-[[[4-(acetylamino)-1-methyl-1H-imidazol-2-yl]carbonyl]amino]-1-methyl-1H-pyrrol-2-yl]-1-oxo-2-propenyl]-1,2,4,5,8,8a-hexahydro-6-methyl-4-oxo-, methyl ester, (7bR,8aS)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.
Double bond geometry as shown.




RN 296794-38-2 CAPLUS
CN Cyclopropa[c]pyrrolo[3,2-e]indole-7-carboxylic acid, 2-[(2E)-3-[4-[[[4-(acetylamino)-1-methyl-1H-pyrrol-2-yl]carbonyl]amino]-1-methyl-1H-pyrrol-2-yl]-1-oxo-2-propenyl]-1,2,4,5,8,8a-hexahydro-6-methyl-4-oxo-, methyl ester, (7bR,8aS)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.
Double bond geometry as shown.

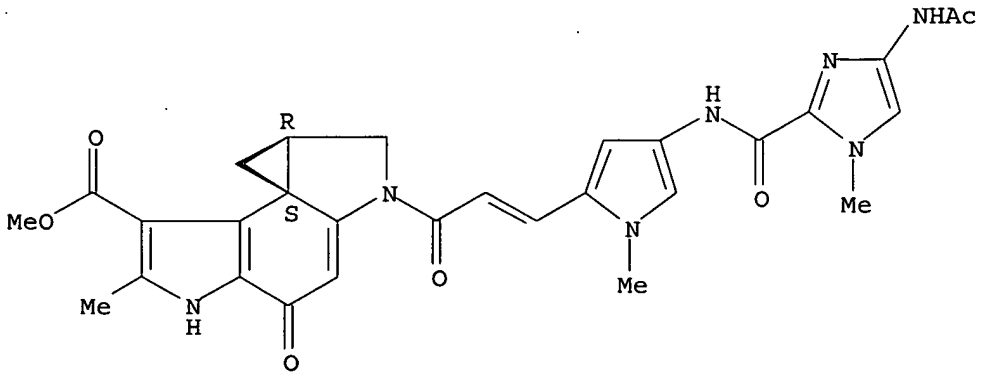


09567863

RE.CNT 8 THERE ARE 8 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L3 ANSWER 4 OF 4 CAPLUS COPYRIGHT 2004 ACS on STN
AN 2000:96276 CAPLUS
DN 132:275556
TI Highly cooperative DNA dialkylation by the homodimer of imidazole-pyrrole diamide-CPI conjugate with vinyl linker
AU Tao, Zhi-Fu; Saito, Isao; Sugiyama, Hiroshi
CS CREST, Japan Science and Technology Corporation (JST), Japan
SO Journal of the American Chemical Society (2000), 122(8), 1602-1608
CODEN: JACSAT; ISSN: 0002-7863
PB American Chemical Society
DT Journal
LA English
OS CASREACT 132:275556
AB We synthesized new type of diamide-CPI conjugate possessing a vinyl linker (7). Sequence-selective alkylation of double-stranded DNA by 7 was investigated by high-resolution denaturing gel electrophoresis using .apprx.400 bp DNA fragments. Highly efficient alkylation predominantly occurs simultaneously at the purines of 5'-PyG(A/T)CPu-3' site on both strands at a nanomolar concentration of 7. These results suggest that the homodimer of conjugate 7 dialkylates both strands according to Dervan's pairing rule together with a new mode of recognition in which the Im-vinyl linker (L) pair targets G/C base pairs. In addition to the major dialkylation sites, a minor alkylation site was also observed at 5'-GT(A/T)GC-3'. This alkylation can be explained by an analogous slipped homodimer recognition mode in which the L-L pair recognizes the A/T base pair. Efficient dialkylation by the homodimer of 7 was further confirmed using oligonucleotides (ODNs). HPLC anal. revealed that the conjugate 7 simultaneously alkylates GN3/AN3 of the target sequences on both strands of ODNs.
IT **263710-69-6P**
RL: NUU (Other use, unclassified); RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent); USES (Uses)
(preparation and cooperative DNA dialkylation by imidazole-pyrrole diamide-CPI conjugate with vinyl linker)
RN 263710-69-6 CAPLUS
CN Cyclopropa[c]pyrrolo[3,2-e]indole-7-carboxylic acid, 2-[3-[4-[[[4-(acetylamino)-1-methyl-1H-imidazol-2-yl]carbonyl]amino]-1-methyl-1H-pyrrol-2-yl]-1-oxo-2-propenyl]-1,2,4,5,8,8a-hexahydro-6-methyl-4-oxo-, methyl ester, (7bS,8aR)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.
Double bond geometry unknown.




RE.CNT 37 THERE ARE 37 CITED REFERENCES AVAILABLE FOR THIS RECORD

09567863

ALL CITATIONS AVAILABLE IN THE RE FORMAT

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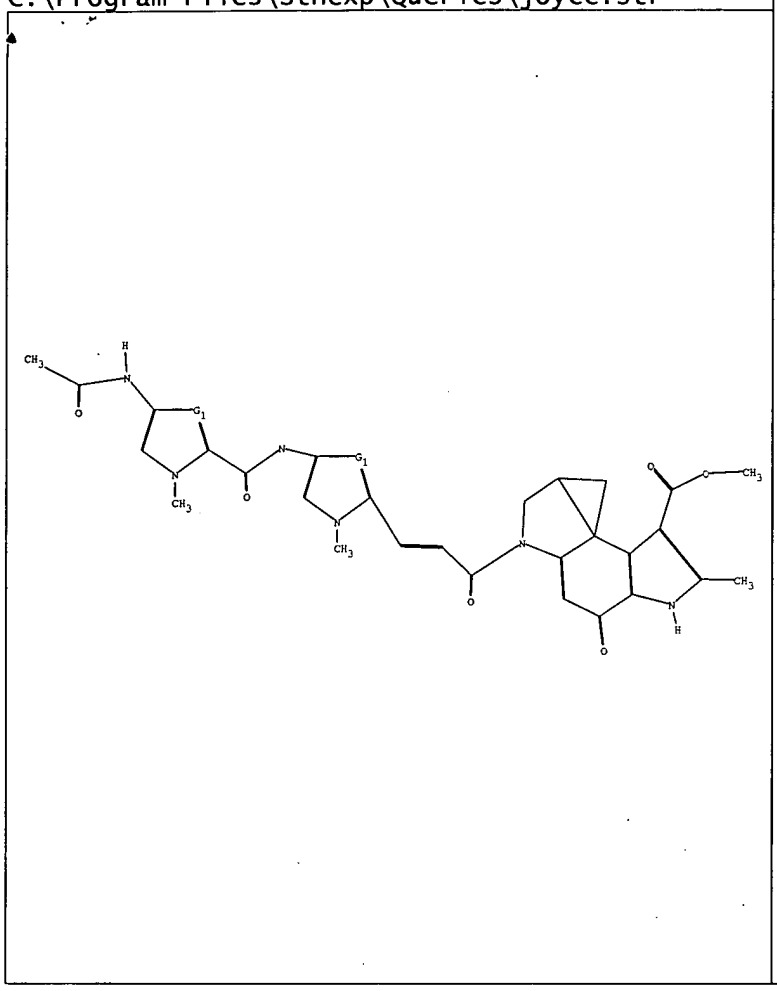
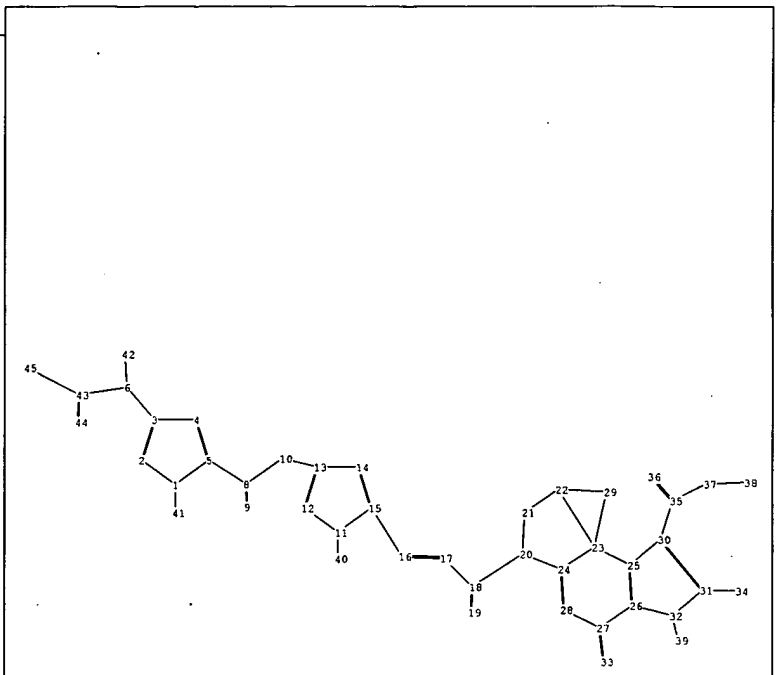
C:\Program Files\Stnexp\Queries\joyce.str





chain nodes :
6 8 9 10 16 17 18 19 33 34 35 36 37 38 39 40 41 42 43 44 45
ring nodes :
1 2 3 4 5 11 12 13 14 15 20 21 22 23 24 25 26 27 28 29 30 31 32
chain bonds :
1-41 3-6 5-8 6-42 6-43 8-9 8-10 10-13 11-40 15-16 16-17 17-18 18-19 18-20
27-33 30-35 31-34 32-39 35-36 35-37 37-38 43-44 43-45
ring bonds :
1-2 1-5 2-3 3-4 4-5 11-12 11-15 12-13 13-14 14-15 20-21 20-24 21-22 22-23
22-29 23-24 23-25 23-29 24-28 25-26 25-30 26-27 26-32 27-28 30-31 31-32
exact/norm bonds :
1-2 1-5 1-41 2-3 3-4 3-6 4-5 5-8 6-42 6-43 8-9 8-10 10-13 11-12 11-15
11-40 12-13 13-14 14-15 15-16 16-17 17-18 18-19 18-20 20-21 20-24 21-22 22-23
22-29 23-24 23-25 23-29 24-28 25-26 25-30 26-27 26-32 27-28 27-33 30-31 30-35
31-32 31-34 32-39 35-36 35-37 37-38 43-44 43-45

G1:C,N

Match level :
1:Atom 2:Atom 3:Atom 4:Atom 5:Atom 6:CLASS 8:CLASS 9:CLASS 10:CLASS 11:Atom
12:Atom 13:Atom 14:Atom 15:Atom 16:CLASS 17:CLASS 18:CLASS 19:CLASS 20:Atom
21:Atom 22:Atom 23:Atom 24:Atom 25:Atom 26:Atom 27:Atom 28:Atom 29:Atom 30:Atom
31:Atom 32:Atom 33:CLASS 34:CLASS 35:CLASS 36:CLASS 37:CLASS 38:CLASS 39:CLASS
40:CLASS 41:CLASS 42:CLASS 43:CLASS 44:CLASS 45:CLASS